



Dentists' knowledge and practice about emergency management of dental trauma

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ABSTRACT

Introduction: Traumatic dental injuries (TDIs) are not uncommon but there is a notable inadequacy regarding dentists' readiness to manage these injuries. Proper immediate management of TDIs increases the long-term prognosis of traumatized teeth and depends extremely on dentists' knowledge. The aim of this study was to evaluate knowledge and self-reported practice of dentists regarding management of TDIs.

Materials and Methods: The participants of this cross-sectional study were dentists in annual congress of Iranian Dental Association. A valid and reliable questionnaire consisting demographic information, the working experience regarding TDIs, knowledge, and self-reported practice towards emergency management of TDIs was distributed among 260 dentists. The data were analyzed by descriptive statistics and linear regression model by SPSS 24 software.

Results: 220 dentists participated in the study among them 180 respondents completely fulfilled the questionnaire (completeness rate= 81%). The mean age was 34.6±9.3 years. Among the participants, 43.3% were male and 56.7% were female. The most of respondents (37.8%) reported working experience for less than five cases of TDIs. Average score of knowledge and self-reported practices were 3.94±1.64 (out of 11) and 8.48±1.74 (out of 13), respectively. Linear regression model which evaluated the effect of confounding factors showed that female dentists and whom had more experiences on managing TDIs cases had higher knowledge score. Furthermore, working experience on managing TDIs cases led to the increase in self-reported practice score.

Conclusion: Knowledge of dentists in the field of emergency management of TDIs is undesirable and it indicates the need for more comprehensive educational efforts.

Keywords: Dental injuries, Dentists, Knowledge, Professional practice.

Introduction

Today, traumatic dental injuries (TDIs) due to high prevalence and negative effects on the quality of life of individuals, are of serious public health problems [1]. Anterior teeth including permanent and deciduous, are very important because of their roll in chewing, speaking, esthetics and mental tranquility. Trauma in the anterior region of the jaws are common and it is a misadventure for the child and parents. According to the studies, falling, exercises, physical activities, hitting with hard foreign objects and accidents are the most reasons

of dento-alveolar trauma [2]. More than 20% of all children show symptoms of dental injuries. Awareness of the control and treatment of traumatic teeth, have a critical role not only in long time prognosis of traumatic teeth, but also in improving oral health. These injuries impose economic burden on the families and the society and delay or mistake in the treatment can worsen this situation [1]. International Association of Dental Traumatology (IADT) have reported that of each two children aged 8 to 12 years old, one suffers a kind of dental injury. They believe that

in most TDIs, a proper immediate treatment can prevent later oral and esthetic problems [3]. If the society be aware of the first-aids and the need for emergency management in the TDIs cases, the therapeutic outcomes of these injuries will be significantly improve; as the best results will completely dependent on proper on-time management of the emergency situations [4].

To prevent the occurrence of TDIs, many studies have been indicated the important role of education and improving the awareness of individuals. These studies emphasized that educational efforts directed specifically to children, parents, teachers and physical trainers may have the best effect on the prevention of TDIs. Protecting oral cavity by mouth guard in some organized sports has been shown to be one of the most effective strategies to prohibit TDIs due to this fact that many of dental injuries occur during risky sports, such as boxing, basketball, soccer, martial sports, skating, and hockey. Moreover, preventing TDIs in children needs to advise parents not only of the role of supervision and low family stress but also of the importance of reducing the children's exposure to unsafe environments [5]. Finally, the early on-site management of dental trauma by different groups of community including dental professionals is essential for a favorable long-term prognosis [6]. The aim of this study was to evaluate knowledge and self-reported practice of dentists regarding management of TDIs.

Materials and Methods

The participants of this cross-sectional study were 260 dentists attending in Fifty-seventh International Congress of Iranian Dental Association. The questionnaires were obtained from previous standardized studies [7]. Its content validity, were re-evaluated qualitatively by three experts in Community Oral Health, one specialist in Pediatric Dentistry, an Oral and Maxillofacial surgeon, and an Endodontist and minor changes were applied in it. Questionnaire reliability was assessed by test-retest on ten dentists with two-week intervals (minimum agreement= 90%). After that the questionnaires were distributed between participants of Fifty-seventh International Congress of Iranian Dental Association. The questionnaire was consisted of 30 questions on TDIs regarding background information (ten questions), knowledge questions (eight items) and practice questions (12 items). The participants were informed about the purpose, and voluntary nature of the study, and were asked to fill the questionnaires carefully. After the questionnaires were filled, the answers were scored and the results were analyzed using de-

scriptive tables and linear regression model in SPSS 24 software.

Results

Totally 220 questionnaires were returned (response rate=84%) which of those 220 questionnaires were completely fulfilled (completeness rate= 81%). The mean age was 34.6 ± 9.3 years. Among the participants, 43.3% were male and 56.7% were females. Additionally, 85 dentists were single (47.2%), while the number of married participants were 95 (52.8%). Dentists were from different cities of Iran. 12% of them were graduated from Tehran University of Medical Sciences and others were graduated from other dental schools of Iran or even from other countries. Fifty participants (27.8%) reported no working experience regarding management of TDIs and 37.8% of dentists had working experience for less than five TDIs cases. The others reported managing more than five TDIs cases in their working experience.

Among the participants the maximum and the minimum score of knowledge were 10, and 1, respectively. The mean score of knowledge was 3.94 ± 1.64 out of 11. The maximum and the minimum score of self-reported practice were 13, and 3, respectively. The mean score of self-reported practice was 8.48 ± 1.74 out of 13. The results of statistics analysis showed that there was a relationship between dentists' knowledge towards TDIs management and TDIs self-reported practice (Pearson correlation coefficient= 0.329). Linear regression models controlling for demographics on factors associated with dentists' knowledge with regard to TDIs management revealed that knowledge was associated with female gender ($P=0.03$) and more TDIs cases that dentists reported they had managed ($P=0.04$) (Table 1). Moreover, results of liner regression model controlling for demographics on factors associated with dentists' self-reported practice towards TDIs management showed a significant relationship between the self-reported practice and number of TDIs patients that the dentists have been managed ($P=0.001$) (Table 2).

| | Unstandardized Coefficients | Standardized Coefficients | P-value |
|---|-----------------------------|---------------------------|---------|
| Working experience regarding TDI's management | 0.19 | 0.16 | 0.04 |
| Gender | 0.55 | 0.17 | 0.03 |

Table 1. Linear regression models controlling for demographics* on factors associated with dentists' knowledge with regard to emergency management of TDIs.

| | Unstandardized Coefficients | Standardized Coefficients | P-value |
|---|-----------------------------|---------------------------|---------|
| Working experience regarding TDI's management | 0.31 | 0.25 | 0.001 |

Table 2. Linear regression models controlling for demographics* on factors associated with dentists' self-reported practice with regard to emergency management of TDIs.

Discussion

In this study we evaluated knowledge and self-reported practice of dentists towards emergency management of TDIs. The participants of this cross-sectional study were dentists attending in Fifty-seventh International Congress of Iranian Dental Association. The mean score of knowledge and self-reported practice were $3.94 \pm SD=1.64$ (out of 11) and 8.48 ± 1.74 out of 13. These scores are far from favorable level that defines the need for comprehensive educational programs for dentists after graduation.

Mohebbi et al. [7] evaluated the knowledge of dental students in different universities in Tehran, Iran, regarding management of dental trauma. The average score of knowledge regarding TDIs was 5.48 (out of 12). This finding is more favorable than ours which may be due to the fact that the students have the latest information and are more fresh than dentists. However, their findings are still far from expected level. In another study in Iran by Akhlaghiet al. on general dental practitioners' knowledge about the emergency management of dental trauma [8], the mean score of knowledge was 7.61 ± 2.68 out of 14 suggesting a moderate score with this regard. Seyfi and Valizadeh found that the mean score of general dentists' knowledge was 8.5 out of 10, which it seems that is higher than our study [9]. This may be related to the questions, or dentists' knowledge level. Similar studies in Iran, UK, Norway, and Italy have evaluated dentists' knowledge regarding management of TDIs and found that the mean score of knowledge were 64% (10), 53% [11], 64% [12], and 64% [13], respectively, which rate in low to moderate level. All of this studies recommended more efforts on refining the dentists' knowledge towards management

of TDIs through continuing education programs.

In the present study, female dentists had higher knowledge scores. Moreover, in this study dentists who reported more managed TDI cases had higher knowledge scores. Re et al. reported a similar finding on dentists' gender and knowledge [13]. But Mohebbi et al. [7], and Seyfi and Valizadeh [7] found no significant relationships between knowledge and demographic variables. Seraj et al. [8], Hamilton et al. [11], Skaare et al. [12], and Kostopoulou and Duggal [14] stated a significant relationship between knowledge and dentists' age. According to these three studies, it seems that longer period passed from graduation time results in lower knowledge scores. So it shows the need for educational courses for senior dentists. Furthermore, the diversities among different studies may be related to the target groups or demographic varieties.

In this study dentists who reported more working experience regarding TDI cases management had higher self-reported scores. Skaare et al. [12] found no significant relationships between dentists' practice towards two paper-cases of TDI and demographic variables. The difference between our findings and later study's result may be due to the dissimilar paper cases and target groups, or demographic varieties.

Conclusions

According to the results of this study, level of knowledge and practice of dentists regarding TDIs management were insufficient. These findings indicate the need of continuing education programs for dentists on this subject. Since TDIs management is very important and the knowledge about this subject is growing and changing, proper planning is needed to

update the knowledge of the general dentists on TDIs management.

Conflict of Interest

There is no conflict of interest to declare.

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